



# FEMA



## HAZARDS OF FLOOD RELATED MOLD

People whose property experienced flooding during the recent storms should be concerned about exposure to, and the effects of, mold on their property. Mold spores are very tiny and lightweight, allowing them to travel through the air.

**HEALTH CONCERNS: Inhaling air that contains high spore levels can cause an allergic reaction or other health problems. You can also be exposed to mold through skin contact and eating.**

For some people, a relatively small number of mold spores can cause health problems. The basic rule is, if you can see or smell mold, take steps to eliminate the excess moisture, and to cleanup and remove the mold. It is important to quickly identify and correct any moisture sources before health problems develop. Infants, children, pregnant women, individuals with existing respiratory conditions (allergies, multiple chemical sensitivity, and asthma), the elderly and immune compromised people may be at higher risks for adverse health effects from mold.

Allergic reactions may be the most common health problem of mold exposure. Typical symptoms reported (alone or in combination) include:

- Respiratory problems, such as wheezing, and difficulty in breathing
- Nasal and sinus congestion
- Eyes-burning, watery, reddened, blurry vision, light sensitivity
- Dry, hacking cough
- Sore throat
- Nose and throat irritation
- Shortness of breath
- Skin irritation
- Central nervous system problems (constant headaches, nausea)
- Aches and pains
- Fever

If you experience symptoms you should contact your health professional.

**STRUCTURAL CONCERNS: Mold can also cause structural damage to your home if there is enough moisture available to allow mold to thrive and multiply. Dampness in basements, walls, carpets, and wood caused by flooding, provide an environment for mold to flourish.**

You can tell if you have mold in your home if you can see it, or if there is an earthy or musty odor. Visible mold growth is found underneath materials where water has damaged surfaces or behind walls. Look for discoloration and leaching from plaster. Removal of moldy materials is best done when wet to prevent spore release.

If mold odors persist, continue to dry out the area and search for any hidden areas of mold. If the area continues to smell musty, you may have to re-clean it. Continue to dry and ventilate the area. Don't replace flooring or begin rebuilding until the area has dried completely.

**HOW TO CLEAN UP: Before beginning work on a flooded home, make sure the electricity is turned off. Unplug appliances and lamps, remove light bulbs, and cover plates of wall switches and outlets that got wet. If local building inspection code allows you to disconnect wiring from switches and outlets, do so and throw them away. If your building inspector says that you cannot disconnect the wiring, pull wires forward, away from the wall, and leave them connected.**

Cleanup continued...

Remove as much mud as possible. Hose down the inside of the house and its contents. It is best to use an attachment that sprays soap to wash and rinse the walls, floors, furniture, sockets, electrical boxes, and other major items that got muddy. Use non-ammonia soap or detergent or a commercial cleaner, in hot water, and scrub the entire area affected by the mold. A stiff brush or cleaning pad works well on block walls or uneven surfaces. Rinse clean with water. A wet/dry vacuum is handy for this process.

Remove heating and cooling registers and ducts, and then hose them to prevent contamination when blowing through the ducts at a later date. Next, wash with a disinfectant that is quaternary, phenolic or pine-oil based. If ducts are in a slab or otherwise inaccessible, have them cleaned professionally.

Disinfect and dry the moldy area. It is critical to remove the source of moisture, before beginning to clean up, as mold growth will return, if the area becomes wet again. Bag and dispose of any material that has moldy residues, such as rags, paper, leaves, or debris. Harder materials such as glass, plastic, or metal can be kept after they are cleaned and disinfected.

- Wear gloves when handling moldy materials. Moldy materials should be removed. Remove porous materials (examples: ceiling tiles, sheetrock, carpeting, wood products). Carpeting can be a difficult problem - drying does not remove the dead spores. Always consider replacing.
- Allow the area to dry 2 or 3 days.
- If flooded, remove all sheetrock to at least 12 inches above the high water mark.
- Visually inspect the wall interior and remove any other intrusive molds. (This step may have to be carried out by a licensed contractor).
- Use caution, as spores are easily released when moldy material is dried out. When cleaning these damaged materials, consider wearing a mask or using a respirator. Respirators can be purchased from hardware stores; select one for particle removal (sometimes referred to as a N95 or TC-21C particulate respirator). Respirators are not as effective in removing bleach fumes, so minimize your exposure when using bleach or other disinfectants. Ventilate area well.
- **After thorough cleaning and rinsing, disinfect the area with a solution of 10% household bleach (e.g., 1 1/2 cup bleach per gallon of water). Using bleach straight from the bottle will not be more effective. Never mix bleach with ammonia - the fumes are toxic. Avoid excessive amounts of runoff or standing bleach. Make sure the working area is well ventilated.**
- Try cleaning a small test patch of mold first. If you feel that this adversely affected your health, you should consider paying a licensed contractor or professional to carry out the work.
- Ask others to leave the areas when being cleaned.
- Work over short time spans and rest in a fresh air location.

For more information, check out these web sites.

<http://www.cmhc-schl.gc.ca/en/burema/coem/flood/flwhbeaf/>  
[http://www.cmhc-schl.gc.ca/en/burema/coem/flood/flwhbeaf/flwhbeaf\\_002.cfm](http://www.cmhc-schl.gc.ca/en/burema/coem/flood/flwhbeaf/flwhbeaf_002.cfm)  
<http://www.cmhc-schl.gc.ca/en/burema/gesein/abhose/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=51552>.